

Having thus described the invention, it is claimed:

1. A frame and steering arrangement for a three-wheel vehicle comprising:

a rigid, open box frame comprising primary and secondary side rails spaced from each other and joined at opposite ends by a front rail and a rear plate;

5 a plurality of mounting components to mount the vehicle engine on the frame adjacent the front rail;

first and second support bars mounted at lower ends on an upper edge of said primary side rails and said front rail and extending over and forwardly of said front rail of said frame;

10 said first and second support bars at upper ends connected to a head tube to mount a front wheel assembly on said frame;

a steering assembly having a front steering bar to connect to said front wheel assembly;

said steering assembly including a rear mounting plate pivotal relative to said frame and located rearwardly of said front wheel assembly; and,

15 a pair of connecting rods of different lengths pivotally connected between said steering bar and said rear mounting plate whereby said mounting plate is pivotal about an axis laterally offset from said front wheel assembly.

2. The frame and steering arrangement according to claim 1, wherein said pair of connecting rods are positioned in a first plane and said primary side rails are positioned in a second plane, said first plane is generally parallel to, but non-coplanar with said second plane.

3. The frame and steering arrangement according to claim 1, wherein each said connecting rod includes a front end and a rear end, said front ends of said connecting rods define a first distance therebetween and said rear ends of said connecting rods define a second distance therebetween, said first distance is greater than said second distance.

4. The frame and steering arrangement according to claim 1, wherein said head tube includes a passage therethrough for receiving a fork tube of said front wheel assembly.

5. The frame and steering arrangement according to claim 1, wherein said head tube tilts rearward from about 30° to 40° from a horizontal axis.

6. The frame and steering arrangement according to claim 5, wherein said head tube tilts rearward about 33° from a horizontal axis.

7. The frame and steering arrangement according to claim 1, wherein said frame includes a cross member mounted between a pair of angled side rails.

8. The frame and steering arrangement according to claim 7, wherein said angled side rails extend upwardly and rearwardly with respect to said primary side rails, said angled side rails connect said primary side rails to said secondary side rails.

9. The frame and steering arrangement according to claim 8, wherein said secondary side rails are positioned in a third plane and said primary side rails are positioned in a second plane, said third plane is generally parallel to, but non-coplanar with said second plane.

10. The frame and steering arrangement according to claim 1, wherein said mounting components comprise first and second motor mount members connected at lower ends on an inside edge of said primary side rails and extending inwardly and upwardly from said primary side rails.

11. The frame and steering arrangement according to claim 10, wherein said motor mount members extend inwardly from about 50° to 60° from a vertical axis.

12. The frame and steering arrangement according to claim 11, wherein said motor mount members extend inward about 53° from a vertical axis.

13. The frame and steering arrangement according to claim 1, wherein said pair of connecting rods comprise a first connecting rod and a second connecting rod, said first connecting rod and said steering bar define a first angle, said second connecting rod and said steering bar define a second angle, said first angle greater than said second angle when said front wheel assembly is in a straight position.

14. A frame arrangement for a three-wheel vehicle comprising:
a rigid, open box frame of metal comprising primary and secondary side rails spaced from each other and joined at opposite ends by a front rail and a rear plate;
a plurality of mounting components to mount the vehicle engine on the frame adjacent the front rail;

first and second support bars mounted at lower ends on an upper edge of said primary side rails and said front rail and extending over and forwardly of said front rail of said frame;

said first and second support bars at upper ends connected to a head tube to mount a front wheel assembly on said frame; and,

said head tube includes a passage therethrough for receiving a fork tube of said front wheel assembly.

15. The frame arrangement according to claim 14, wherein said head tube tilts rearward from about 30° to 40° from a horizontal axis.

16. The frame arrangement according to claim 15, wherein said head tube tilts rearward about 33° from a horizontal axis.

17. The frame arrangement according to claim 14, wherein said frame further includes a cross member mounted between a pair of angled side rails.

18. The frame arrangement according to claim 17, wherein said angled side rails extend upwardly and rearwardly with respect to said primary side rails, said angled side rails connect said primary side rails to said secondary side rails.

19. The frame arrangement according to claim 14, wherein said secondary side rails are positioned in a third plane and said primary side rails are positioned in a second plane, said third plane is generally parallel to, but non-coplanar with said second plane.

20. The frame arrangement according to claim 14, wherein said mounting components comprise first and second motor mount members connected at lower ends on an inside edge of said primary side rails and extending inwardly and upwardly from said primary side rails.

21. The frame arrangement according to claim 20, wherein said motor mount members extend inwardly from about 50° to 60° from a vertical axis.

22. The frame arrangement according to claim 21, wherein said motor mount members extend inwardly about 53° from a vertical axis.

23. A steering arrangement for a three-wheel vehicle comprising:
a steering assembly having a front steering bar to connect to a front wheel assembly;

said steering assembly including a rear mounting plate pivotal relative to a frame
and located rearwardly of said front wheel assembly;

a pair of connecting rods of different lengths pivotally connected between said steering bar and said rear mounting plate whereby said mounting plate is pivotal about an axis laterally offset from said front wheel assembly; and,

said pair of connecting rods are positioned in a first plane and a pair of primary side rails are positioned in a second plane, said first plane is generally parallel to, but non-coplanar with said second plane.

24. The steering arrangement according to claim 23, wherein each said connecting rod includes a front end and a rear end, said front ends of said connecting rods define a first distance therebetween and said rear ends of said connecting rods define a second distance therebetween, said first distance is greater than said second distance.

25. The steering arrangement according to claim 23, wherein said pair of connecting rods comprise a first connecting rod and a second connecting rod, said first connecting rod and said steering bar define a first angle, said second connecting rod and said steering bar define a second angle, said first angle greater than said second angle when said front wheel assembly is in a straight position.

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